

FINAL ENVIRONMENTAL IMPACT REPORT KELLER AVENUE PROJECT

OAKLAND, CALIFORNIA

PREPARED FOR:
CITY OF OAKLAND
PLANNING DEPARTMENT

SCH# 79052405



CIVIL / ENVIRONMENTAL SYSTEMS ENGINEERS • URBAN PLANNERS
1633 Old Bayshore Highway • Burlingame, California 94010 • (415) 692-1830

File No. ER 82-30
Ref. No. PUD 83-69

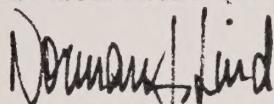
City of Oakland
Oakland, California

Tract 5148

FINAL ENVIRONMENTAL IMPACT REPORT FOR:
Keller Avenue Development
(Project Title)
California Environmental Quality Act

CERTIFICATION OF COMPLIANCE WITH THE
CALIFORNIA ENVIRONMENTAL QUALITY ACT

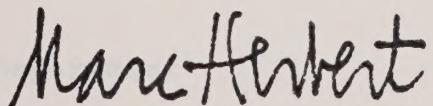
The Director of City Planning finds that the attached Final Environmental Impact Report has been completed in compliance with the California Environmental Quality Act, the Guidelines prescribed by the Secretary for Resources, and the provisions of the City of Oakland's Statement of Objectives, Criteria and Procedures for Implementation of the California Environmental Quality Act.


NORMAN J. LIND
Director of City Planning

Date: April 1, 1983

ACCEPTANCE OF FINAL REPORT BY CITY PLANNING COMMISSION

The attached Final Environmental Impact Report was accepted by the Oakland City Planning Commission at its meeting of _____.


MARC HERBERT, Secretary
City Planning Commission

Attach to Final Environmental Impact Report.



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FINAL ENVIRONMENTAL IMPACT REPORT
for the
Keller Avenue Project

April, 1983

Prepared for the City Planning Department
Oakland, California

By:
Reimer Associates
1633 Old Bayshore Highway
Suite 120
Burlingame, California 94010
(415) 692-1830

ER 82-30
Sch #79052405

1. INTRODUCTION

TABLE OF CONTENTS

This Final Environmental Impact Report on the Newell Station project contains:

1. Introduction
2. Responses to Comments
3. Written Comments
4. Additional Research and Response to Comments

Responses to these comments, additional research and supplemental information for the Draft EIR

This Final Environmental Impact Report was prepared in accordance with the California Environmental Quality Act (CEQA), section 15080. Responses to comments and the supplemental Draft EIR together constitute the Final EIR on the proposed Newell Station project.

1. INTRODUCTION

This final Environmental Impact Report on the Keller Avenue project contains:

Comments received during the forty-five (45) day review period on the Draft EIR.

Comments received during the March 30, 1983 public hearing before the City Planning Commission.

Responses to these comments, additional research and supplemental information for the Draft EIR

This final Environmental Impact Report was prepared in accordance with the California Environmental Quality Act Guidelines, Section 15146. Response to comments and the Supplemental Draft EIR together, constitute the Final EIR on the proposed Keller Avenue project.

2. RESPONSES TO COMMENTS

ENVIRONMENTAL CATEGORY:

Vegetation

Comment Source

1. Written Comments

A. Citizens: _____ Name _____ Date _____

B. Agencies or Departments:

East Bay Regional Park
District

March 21, 1983

2. Public Testimony on:

Comment: A rare plant called the Western Leatherwood (Dirca occidentalis) may be impacted by the construction of this project. An undetermined number of large white Alder trees (Alnus rhombifolia) along the rifle range of the Arroyo Viego Creek, will also be impacted.

Response: Additional research has been conducted in respect to the identification of the Western Leatherwood (Dirca occidentalis). The Western Leatherwood (Dirca occidentalis) is only listed as rare in the California Native Plant Society's third priority list. It is not endangered. It is not included in the California Department Fish and Game Rare or Endangered plant list. Johnathan Plant, a native plant specialist, from Anthony M. Guzzardo & Associates conducted original research in respect to this comment and a copy of his letter report is attached. On March 25th a transect was conducted of the impacted area. Ten (10) of these plants were found. According to the East Bay Regional Park District this plant has been identified in other

portions of the site, which will remain in open space. The existence of this species on the preserved portion of the site may be considered a mitigation measure. It would be difficult to modify the alignment of Campus Drive. It may be possible to transplant the affected species. The White Alder has been identified in the Caballo Hills EIR (Page 35) and its potential removal noted as a part of the Impact Section (Page 93). New white Alders could be planted elsewhere on the site as a mitigation measure. The disturbed area on Parcel L, Figure 12 has not been changed.

ENVIRONMENTAL CATEGORY:

Traffic and Transportation

Comment Source

1. Written Comments

A. Citizens: Name Date

B. Agencies or Departments:

2. Public Testimony on:

Public Hearing at Oakland
Planning Commission

March 30, 1983

Comment: Will the consequences of the local network congestion require signalization?

Response: The project sponsor through DKS Associates, has conducted additional research and has determined that a traffic signal is not required. Additional documentation is included in the further research section of the final environmental report in a letter from DKS dated April 4, 1983.

ENVIRONMENTAL CATEGORY:

Traffic and Transportation

Comment Source

1. Written Comments

A. Citizens: Name Date

B. Agencies or Departments: California Department of Transportation, District 4

2. Public Testimony on:

Comment: Requests additional clarification on a number of minor items.

Response: These items have been considered further and included in a letter from DKS, dated April 7, 1983, contained in the Further Research and Response Section.

3. WRITTEN COMMENTS

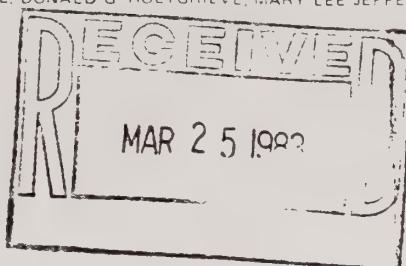
EAST BAY REGIONAL PARK DISTRICT



11500 SKYLINE BOULEVARD • OAKLAND, CALIFORNIA 94619 • TELEPHONE (415) 531-9300

BOARD OF DIRECTORS HARLAN KESSEL, President; WALTER H. COSTA, Vice President; TED RADKE, Secretary; JOHN J. LEAVITT, Treasurer; HOWARD L. COGSWELL, DONALD G. HULTGRILVE, MARY LEE JEFFERDS • RICHARD C. TRUDEAU, General Manager

March 21, 1983



Mr. Willie Yee
Oakland Planning Department
City Hall
1421 Washington St.
Oakland, CA 94612

Subject: Supplemental EIR, Keller Avenue Project, SCH #79052405

Dear Mr. Yee:

The EBRPD has reviewed the subject document and offers the following comments.

On page 10, the EIR indicates that the effects of the project upon vegetation are adequately discussed in the original EIR. There are two circumstances which require additional discussion of this topic in the subject document. First, in the years since the original EIR, a rare plant called the western leatherwood (Dirca occidentalis) has been noted on the interior east-facing slopes of the site. This plant has been listed by the California Native Plant Society as rare. Second, the proposed alignment of Campus Drive has been altered so that it would go along the interior east-facing slope (possibly affecting the western leatherwood), and so that it would require the destruction of several of the extremely large white alder trees (Alnus rhombifolia) along the Rifle Range branch of Arroyo Viejo Creek. There are only about 30 alders along this creek; these trees may be the largest of their species in the County, and certainly will qualify for protection under Oakland's tree preservation ordinance. The EBRPD suggests that these potentials for adverse impacts could be better identified if the extent of cut or fill area necessary to construct the new alignment of Campus Drive were staked in the field. This would also facilitate the identification of mitigation by minor alteration of the road alignment.

On page 11, the EIR indicates that 400 acres of the site have been dedicated to the EBRPD. While the applicant has indicated that this is his intention (and the District has indicated willingness to accept), the actual transfer of title has not yet been accomplished.

On page 16, the EIR indicates that a scouring prevention basin is to be constructed to settle sand and gravel out of the water from Rifle Range Branch prior to its entry into the storm drain system. Such a basin could adversely affect the riparian vegetation in two ways; (1) direct removal for basin construction and (2) smothering due to deposition of sand and gravel. Again, the potential for impacts and the feasibility of mitigation measures could be better identified if the location and dimensions of the basin were staked in the field. The responsibility for regular (twice a year) inspection and maintenance of this basin also should be clearly identified in the EIR.

The District appreciates the opportunity to comment on this EIR. The EBRPD staff would be pleased to assist the City staff and their consultants in performing the field evaluations referred to herein. If you have any questions, please contact the undersigned at 531-9300, Ext. 263.

Very truly yours,



T.H. Lindenmeyer
Environmental Coordinator
Planning and Design

THL:lm

cc: R. C. Trudeau
L. Crutcher
H. Hornbeck
N. Havlik
R. Dawson



State of California

GOVERNOR'S OFFICE

OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET

SACRAMENTO 95814

(916) 445-0613

GEORGE DEUKMEJIAN

GOVERNOR

March 30, 1983

Mr. Willie Yee, Jr.
City of Oakland
1421 Washington Street
Oakland CA 94612

ADD 11100

RECEIVED

APR 5 1983

CITY PLANNING COMMISSION
ZONING DIVISION

Subject: SCH# 79052405 KELLER AVENUE PROPERTY

Dear Mr. Yee,

The State Clearinghouse submitted the above named draft Environmental Impact Report (EIR) to selected state agencies for review. The review period is closed and the comments of the individual agency(ies) is(are) attached. If you would like to discuss their concerns and recommendations, please contact the staff from the appropriate agency(ies).

When preparing the final EIR, you must include all comments and responses (CEQA Guidelines, Section 15146). The certified EIR must be considered in the decision-making process for the project. In addition, we urge you to respond directly to the commenting agency(ies) by writing to them, including the State Clearinghouse number on all correspondence.

A 1981 Appellate Court decision in Cleary v. County of Stanislaus (118 Cal. App. 3d 348) clarified requirements for responding to review comments. Specifically, the court indicated that comments must be addressed in detail, giving reasons why the specific comments and suggestions were not accepted. The responses must show factors of overriding significance which required the suggestion or comment to be rejected. Responses to comments must not be conclusory statements but must be supported by empirical or experimental data, scientific authority or explanatory information of any kind. The court further said that the responses must be a good faith, reasoned analysis.

In the event that the project is approved without adequate mitigation of significant effects, the lead agency must make written findings for each significant effect and it must support its actions with a written statement of overriding considerations for each unmitigated significant effect (CEQA Guidelines Section 15088 and 15089).

If the project requires discretionary approval from any state agency, the Notice of Determination must be filed with the Secretary for Resources, as well as with the County Clerk. Please contact Anna Polvos at (916) 445-0613 if you have any questions about the environmental review process.

Sincerely,

Ron Bass

Ron Bass, Director
State Clearinghouse

cc: Resources Agency
attachment

Memorandum

To : Ron Bass
Executive Officer
State Clearinghouse
1400 Tenth St.
Sacramento, CA 95814

RECEIVED

MAR 28 1983

State Clearinghouse

Date: March 16, 1983

File : ALA-580-R37.80
SCH #7905 2405

From : DEPARTMENT OF TRANSPORTATION - 04
Environmental Planning Br.

Subject: Supplemental DEIR for Keller Avenue Project. Lead Agency is
the City of Oakland.

Caltrans has completed its review of the above referenced document.
We would like to forward the following comments and concerns:

1. The transportation section (pp. 35-55, and Appendix C) is generally complete and well organized. The trip generation, distribution, and assignment assumptions and calculations are reasonably and carefully prepared. A few points appear to require clarification, revision and/or supplementary documentation.
2. Project generated traffic will probably have a significant impact on the AM and PM peak hour operation of the Keller Avenue/I-580 interchange. We would like to see the capacity analysis for both intersections at the I-580 ramps/ Keller Avenue interchange.
3. Trip distribution assumptions are generally reasonable, however, it is likely that 90-95% (rather than 80%, page 41) of the inbound PM peak hour residential trips would access via the Keller Avenue/I-580 interchange.
4. The background 1983-1990 Growth (Appendix C, Approach Traffic Worksheets 1-3) amounts to 24% of the existing Volumes, i.e. 3% per year (early 1983 to late 1990). This is probably generous for volumes to/from local areas at which local developments have been noted.
5. What was the basis for the north/south split in trip distribution and assignment of traffic to/from I-580 at the Keller Avenue interchange?
6. Four of the DKS summary sheets (in Appendix C) show existing AM and PM turning movements at the Mountain Blvd/Keller Ave. and the I-580 Southbound off-ramp/ Keller Ave. intersections. On the contrary, the three worksheets mentioned under item 3 above show approach

Mr. Bass
page 2
Mar. 16, 1983

volumes for both existing and the cumulative 1990 condition at these two, and other intersections.

7. For better corroboration of the evaluation of future intersection conditions (page 53, lines 19-23), four turning movement diagrams for the 1990 condition are needed. The basis data should be readily available to the traffic consultants.

We look forward to reviewing the FEIR. Please send it to our contact person below:

Darnall W. Reynolds
District CEQA Coordinator
Caltrans District 04
P O Box 7310
San Francisco, CA 94120

If you have any questions regarding these comments, please contact Veda Lewis of my staff at (415) 557-8542.

Darnall W. Reynolds
DARNALL W. REYNOLDS
District CEQA Coordinator

cc: F.D. Husum (DOTP), State Clearinghouse

VL: ysp

cc: LC, JME, LN, RDS/DWR, RKD.

4. ADDITIONAL RESEARCH AND RESPONSE TO COMMENTS

Anthony M. Guzzardo
and Associates, Inc.

836 Montgomery Street
San Francisco,
California 94133

Telephone:
415-433-4672

Principals
Dale K. Ikeda
Lyle V. Fredrickson

Associates
John S. Quick, Jr.
Paul T. Lettieri
Nicholas R. Patera
Gregory Randall

Landscape Architects
and Land Planners

March 28, 1983

Reimer Associates
1633 Old Bayshore Highway
Burlingame, California 94010

Attention: Mr. Steve Brothers

Re: Keller Ave. Field Transect

Dear Steve:

On March 25, 1983 a field transect was taken of the north-east section of the Keller Avenue project site impacted by the proposed alignment of Campus Drive. The team consisted of Steve Brothers, Linda Brothers, Mike Castenada, and Elish Ryan of Reimer Associates and Jonathan Plant of Anthony M. Guzzardo and Associates.

The aim of the field transect was to indentify and locate the rare Western Leatherwood (*Dirca occidentalis*) reported to be on the site and to inspect the large White Alders along the rifle range branch of the Arroyo Viejo creek. This survey was undertaken on the recommendation of Mr. T. H. Lindenmeyer of the E.B.R.P.D.

The impacted area was preliminarily surveyed and marked by Steve Brothers and Mike Castenada on March 24 prior to the field transect. The five members of the transect team were aligned at 30' intervals at the top of the impacted area and proceeded in an easterly direction.

Western Leatherwood (*Dirca occidentalis*) was found growing in two locations on a tributary creek leading across the impacted area and feeding into the Arroyo Viejo creek. The first location consisted of one plant in somewhat weakened condition due to low light levels caused by the surrounding Live Oak forest (*Quercus agrifolia*). This plant was located on a north slope about fifteen feet from the stream.



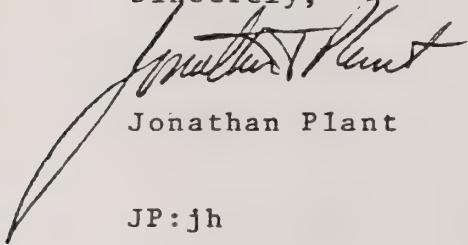
The second finding was about 150' feet downstream in a clearing. There were at least nine individual plants of about 6' - 8' in height growing in close association with Coffeeberry (*Rhamnus californica*), native Hazelnut (*Corylus cornuta californica*) and Elderberry (*Sambucus callicarpa*). The habitat of *Dirca occidentale* on this site would appear to be limited to these two riparian clearings.

If division were taken of some of the suckers of these Western Leatherwood clumps in the next month and transplanted to similar wet open riparian areas, it might be possible to establish this plant elsewhere on the site.

The White Alder (*Alnus rhombifolia*) clumps on the Arroyo Viejo creek are distinctive for their size. The largest specimen tree having a girth of approximately 36". They are likely to be severely impacted or destroyed in the proposed grading scheme. A detailed staking would be necessary to confirm this.

If I can be of further assistance in the evaluation of environmental impacts on this site, please call me at this office.

Sincerely,



Jonathan Plant

cc: Jerry Schauffler



Principals:

Charles E. De Leuw, Jr., P.E.
William H. Dietrich, P.E.
Larry R. Grove, P.E.
Michael A. Kennedy, P.E.
Hans W. Korp, P.E.
Richard T. Sauve, P.E.
Daniel T. Smith, Jr., P.E.

April 4, 1983

Mr. Norman J. Lind
City Planning Director
City of Oakland
1421 Washington Street
Oakland, CA. 94612

Subject: Keller Avenue Project Intersection
Control Along Major Streets

P82057-0

Dear Mr. Lind:

The purpose of this letter is to summarize and clarify the traffic engineering recommendations concerning the need for traffic control devices along Keller Avenue at Campus Drive and at the project entrance as well as at the intersection of Campus Drive with the access road serving the proposed retail and office development.

The projected traffic volumes for 1990 were derived and compared to the Caltrans traffic signal warrant criteria*. The results of this comparison are presented in Tables 1 and 2 attached to this letter.

The findings and recommendations with respect to traffic control at each of the three intersections are summarized in the following paragraphs.

Site Entrance at Keller Avenue

- o Major turning movements at the Keller Avenue project access road are right turns out and left turns in.
- o Signalization is not warranted by 1990 traffic volumes which includes new traffic generated by the Keller Avenue project.
- o Relocation of the main access to Oak Knoll Naval Hospital to Keller Avenue is an event which would, by itself, reach the minimum level of the Interruption of Continuous Flow warrant.
- o STOP sign control is recommended for drivers exiting the site entrance onto Keller Avenue. The question of signalization is relevant only if Oak Knoll Hospital changes its main entrance to Keller Avenue.

* Traffic Signal Warrants Figure 9-1C Section 9-6. Caltrans Traffic Manual

Campus Drive at Keller Avenue*

- o The minimum level for the Minimum Volume warrant is reached when traffic from Caballo Hills and Merritt Junior College are added to Keller Avenue project traffic.
- o Major turning movements at this T intersection are right turns out of Campus Drive and left turns in. The left turn volume out of Campus Drive, which has the most potential for conflict, is very small.
- o Sight distance along Keller Avenue was found to be in excess of 600 feet which is more than adequate for the prevailing speeds.
- o Pedestrian volume crossing Keller Avenue will be very, very low and consist of primarily persons living in the new apartments to be constructed immediately south and west of the intersection.
- o The recommended treatment for the Campus Drive/Keller Avenue intersection is to install a STOP sign to control for Campus Drive while Keller Avenue remains uncontrolled.

In addition, an acceleration lane should be constructed on Keller Avenue to serve southbound to eastbound left turns. Such a lane will facilitate left turns from Campus Drive by providing a protected lane for merging with eastbound through traffic. Another advantage to this channelization is that it maintains a relatively free flow situation which reduces delay for most drivers. A signal on the other hand may increase delay as well as creating a higher potential for rear end accidents.

Campus Drive at the Retail/Office Access Driveway

- o Signalization is not warranted at any foreseeable time at this location since traffic flows are relatively low.

* We understand that there is no mention of the need for a traffic signal at the Keller/Campus intersection specified as a condition of development of subdivision 5019 dated February 24, 1982. Therefore, the decision would be based upon results of the traffic engineering analysis which has used the most up-to-date traffic data available.

Mr. Norman J. Lind
City of Oakland
April 1, 1983
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- o Pedestrians crossing of Campus Drive will also be very low at this location with no more than about 40 crossings per day. This amount of crosswalk usage is far below the activity necessary to reach the minimum requirements for pedestrian crossing protection.
- o A STOP sign is recommended to control the drivers exiting onto Campus Drive from the retail/office complex.
- o A left turn lane is recommended to serve southbound drivers on Campus Drive turning left onto the Retail/Office access driveway.
- o A pedestrian crosswalk should be striped across Campus Drive and advance warning PED XING signs placed to alert approaching drivers of the crosswalk.

We trust that this summary clearly states the traffic engineering background and recommendations pertaining to the three intersections and will facilitate the ongoing decision making process. Should you have further questions or comments please feel free to contact us.

Sincerely,

DKS ASSOCIATES

Hans W. Korve
President

HWK:Ijb
cc: John Soderling
Jerry Schauffler

* Caltrans minimum pedestrian volume warrant requires 150 pedestrians per hour crossing the street during the same eight highest traffic volume hours where 1000 or more vehicles per hour enter the intersection.

Mr. Norman J. Lind
 City of Oakland
 April 1, 1983
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Table I
MINIMUM VOLUME WARRANT

Location	Major Street			Minor Street		
	Min. ADT Requirements (Two-Way)	1990	1990 with Oak Knoll*	Min. ADT Requirements (1-Direction Only)	1990	1990 with Oak Knoll
Keller at Site	(6,720)	9,300	10,200	(2,240)	1,000	2,000
Keller at Campus	(6,720)	7,900	8,400	(2,240)	2,950	3,000
Campus at Retail/Office	(9,600) **	5,900	5,950	(2,400) **	800	800

* Assuming main access to Oak Knoll Naval Hospital is changed to Keller Avenue.

** Classified as being urban with speeds under 40 MPH. The other two intersections fall under the rural definition since speeds are in excess of 40 MPH.

Mr. Norman J. Lind
City of Oakland
April 1, 1983
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Table 2
INTERRUPTION OF CONTINUOUS TRAFFIC WARRANT

<u>Location</u>	Major Street			Minor Street		
	<u>Min. ADT Requirements (Two-Way)</u>	<u>1990</u>	<u>1990 with Oak Knoll*</u>	<u>Min. ADT Requirements (1-Direction Only)</u>	<u>1990</u>	<u>1990 with Oak Knoll*</u>
Keller at Site	(10,080)	7,300	8,300	(1,120)	1,000	2,000
Keller at Campus	(10,080)	7,900	8,400	(1,120)	2,950	3,000
Campus at Retail/Office	(14,400) **	5,900	5,950	(1,600) **	800	800

* Assuming main access to Oak Knoll Naval Hospital is changed to Keller Avenue.

** Classified as being urban with speeds under 40 MPH. The other two intersections fall under the Rural definition since speeds are in excess of 40 MPH.

Principals:

Charles E. De Leuw, Jr., P.E.
William H. Dietrich, P.E.
Larry R. Grove, P.E.
Michael A. Kennedy, P.E.
Hans W. Korpel, P.E.
Richard T. Sauve, P.E.
Daniel T. Smith, Jr., P.E.

April 7, 1983

Steven Brothers, Associate
Reimer Associates
1633 Old Bayshore Highway
Burlingame, California 94010

Subject: Response to Caltrans Comments on Supplement DIER
for Keller Avenue Project - City of Oakland

P82057-0

Dear Mr. Brothers:

DKS Associates has the following responses to questions and statements presented in the March 16, 1983 letter from District CEQA coordinator Darnall W. Reynolds to Ron Bass Executive Officer of the State Clearinghouse regarding the supplemental DEIR for Keller Avenue project in the City of Oakland, California.

Comment: 1. The transportation section (pp. 35-55, and Appendix C) is generally complete and well organized. The trip generation, distribution, and assignment assumptions and calculations are reasonably and carefully prepared. A few points appear to require clarification, revision and/or supplementary documentation.

Response: 1. No response required

Comment: 2. Project generated traffic will probably have a significant impact on the AM and PM peak hour operation of the Keller Avenue/I-580 interchange. We would like to see the capacity analysis for both intersections at the I-580 ramps/Keller Avenue interchange.

Response: 2. Capacity calculation work sheets are attached and the capacity utilization for the Mountain Boulevard/Keller Avenue intersection was described in the Intersection Analysis section of the report.

Comment: 3. Trip distribution assumptions are generally reasonable, however, it is likely that 90-95 percent (rather than 80 percent, page 41) of the inbound PM peak hour residential trips would access via the Keller Avenue/I-580 interchange.

Response: 3. The 80 percent referred to on page 41 pertains to a percent of daily travel rather than exclusively PM peak hour. The difference between using 95 percent rather than 80 percent for inbound PM peak hour, Keller Avenue project residential trips amounts to only 21 trips which does not change any of the conclusions.

Mr. Steven Brother, Associate
Reimer Associates
April 7, 1983
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<u>Keller Avenue Project</u>	PM Peak Hour Trips	
	<u>In</u>	<u>Out</u>
Condominiums	131	71
Apartments	9	5
	140	76
95 Percent x 140 =	133	
80 Percent x 140 =	112	
Difference	21	trips

Comment: 4. The background 1983-1990 growth (Appendix C, Approach Traffic Worksheets 1-3) amounts to 24 percent of the existing Volumes, i.e., 3 percent per year (early 1983 to late 1990). This is probably generous for volumes to/from local areas at which local developments have been noted.

Response: 4. Agree that these growth factors are generous therefore resulting in a "worst case" assumption and corresponding conservative estimates of impact and mitigation needs.

Comment: 5. What was the basis for the north/south split in trip distribution and assignment of traffic to/from I-580 at the Keller Avenue interchange?

Response 5. Trip assignment to and from the I-580/Keller/Mountain intersections was proportionally based on existing trip distribution characteristics at these intersections.

Comment: 6. Four of the DKS summary sheets (in Appendix C) show existing AM and PM turning movements at the Mountain Boulevard/Keller Avenue and the I-580 southbound off-ramp/Keller Avenue intersections. On the contrary, the three worksheets mentioned under item 3 above show approach volumes for both existing and the cumulative 1990 condition at these two, and other intersections.

Resonse: 6. See response to Comment 7.

Comment: 7. For better corroboration of the evaluation of future intersection conditions (page 53, lines 19-23), four turning movement diagrams for the 1990 condition are needed. The basis data should be readily available to the traffic consultants.

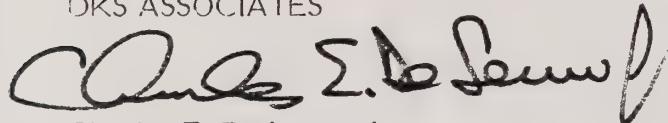
Resonse: 7. The work sheets showing existing and 1990 AM and PM turning movements at Keller Avenue/I-580 southbound off-ramp and Keller Avenue/Mountain Boulevard are attached.

Mr. Steven Brother, Associate
Reimer Associates
April 7, 1983
Page 3

We trust the answers to these comments will satisfy the concerns.

Sincerely,

DKS ASSOCIATES

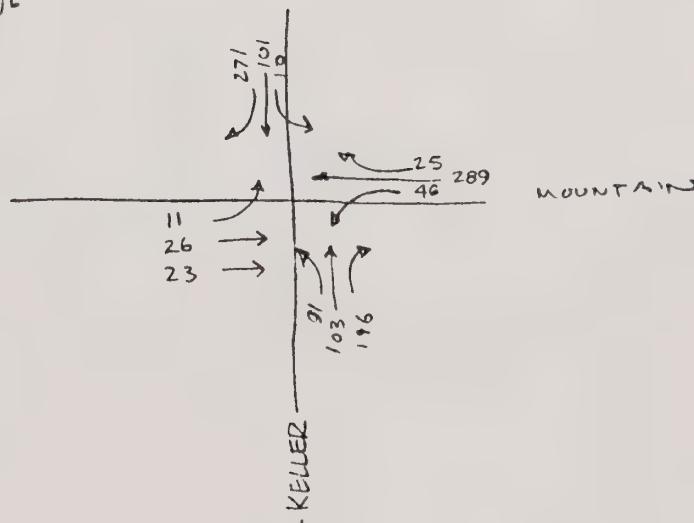


Charles E. De Leuw, Jr.
Principal

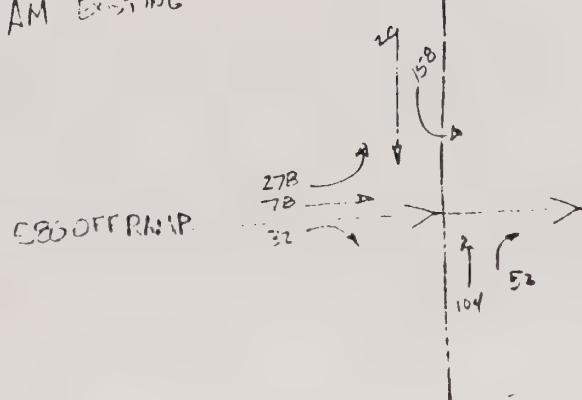
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KELLER AVENUE PROJECT WORKSHEET
AM PEAK HOUR EXISTING & 1990 MOVEMENTS

AM EXISTING

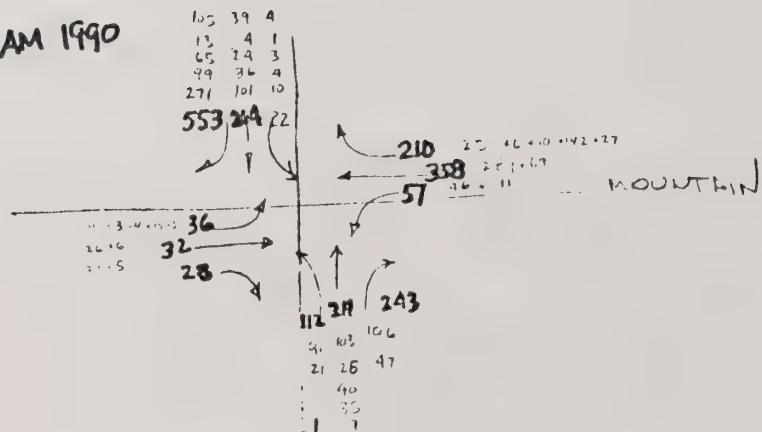


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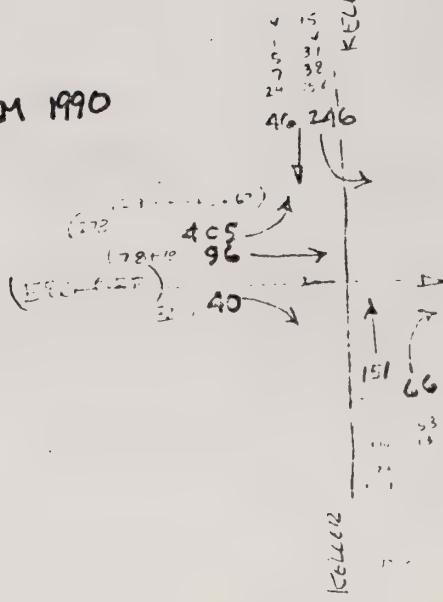


DKS ASSOCIATES

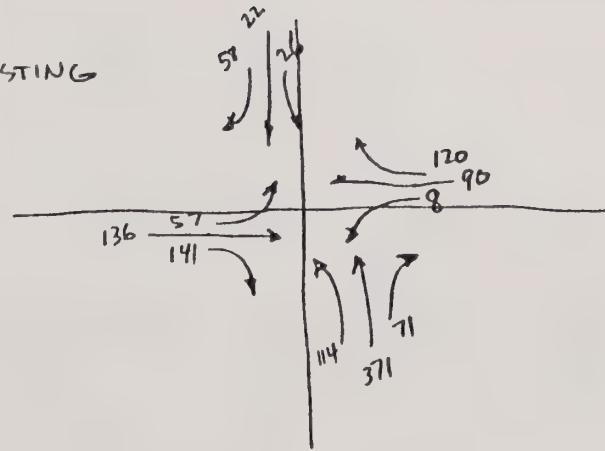
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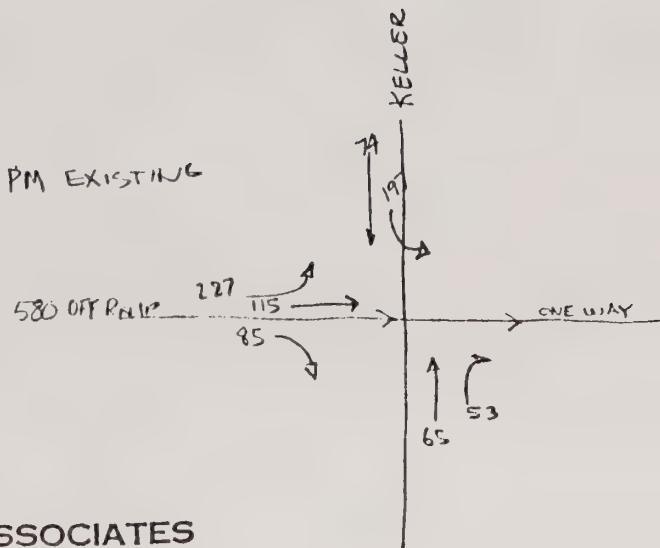
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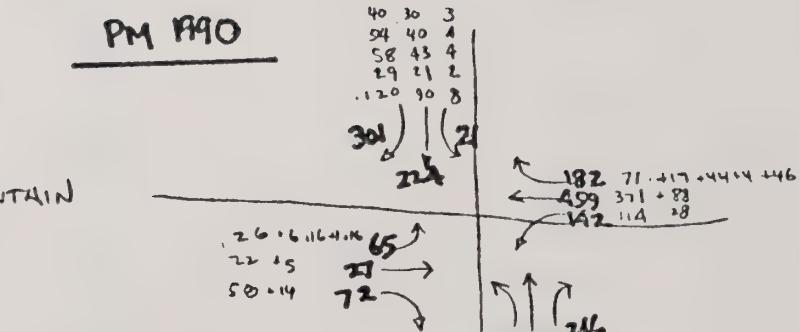
PM EXISTING



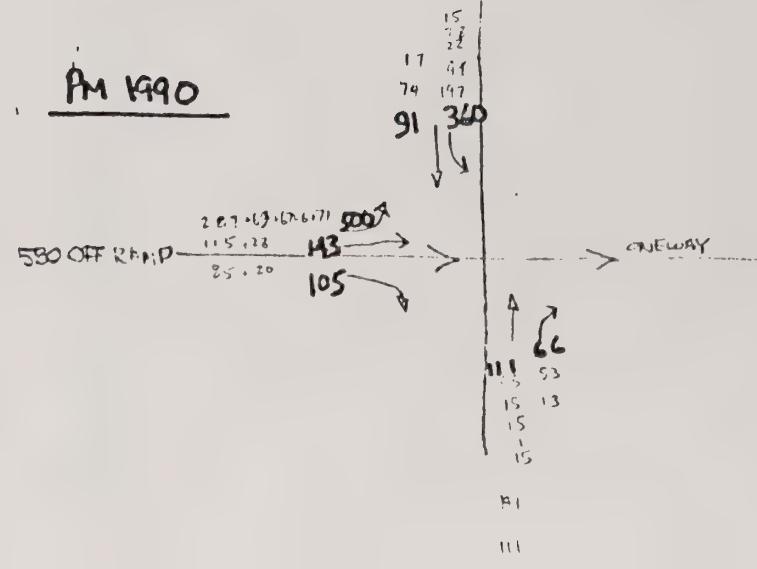
DKS ASSOCIATES

PM 1990

Mountain

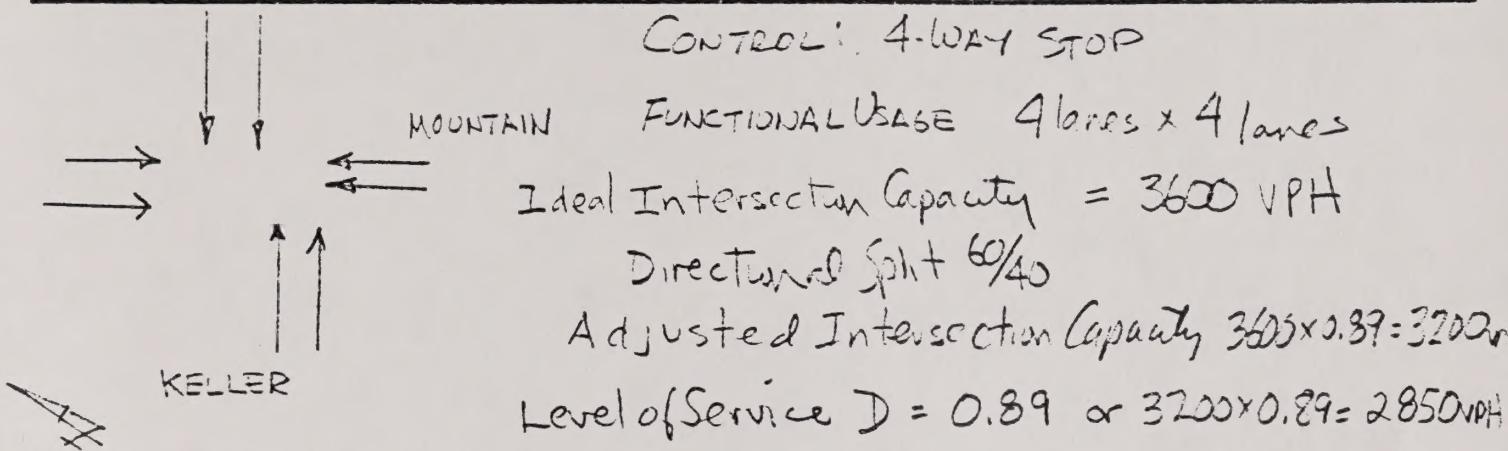
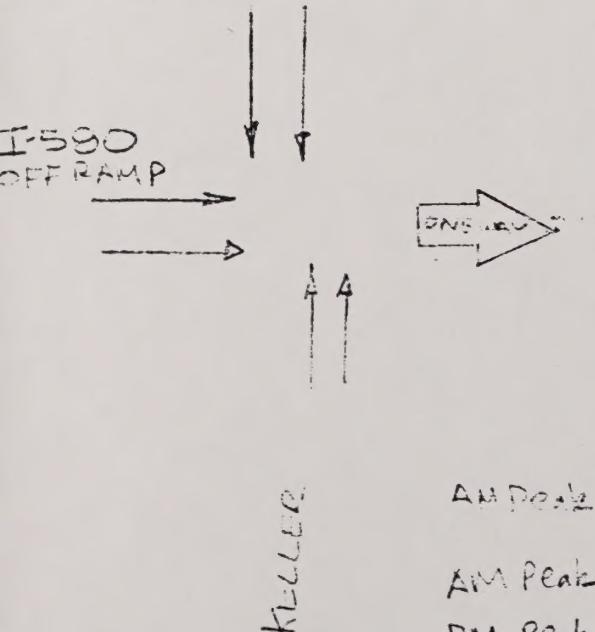


PM 1990



KELLER AVENUE AT MOUNTAIN BOULEVARD

CONTROL: 4-WAY STOP

AM Peak Existing Traffic Entering = $732/3200 = 0.23$ (LOS A)AM Peak 1990 Traffic Entering = $1050/3200 = 0.32$ (LOS A)PM Peak Existing Entering = $1192/3200 = 0.37$ (LOS A)PM Peak 1990 Entering = $2066/3200 = 0.65$ (LOS B)KELLER AVENUE AT SOUTHBOUND I-580 OFF RAMP

ASSUMED CONTROL - ALLWAY STOP

Functional Usage - 2 lane x 2 lane

(assumes lane usage of major volumes)

Ideal Intersection capacity 1900 VPH

Directional Split 55/45

Adjusted Intersection Capacity $1900 \times 0.95 = 1800$ Level of Service D = 0.89 or $1800 \times 0.89 = 1620$ AM Peak Existing Entering $732/1800 = 0.41$ (LOS A)AM Peak 1990 Entering $1050/1800 = 0.58$ (LOS A)PM Peak Existing Entering $376/1800 \approx 0.49$ (LOS A)PM Peak 1990 Entering $1376/1800 = 0.76$ (LOS C)

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